

REMARKS

In the Office Action¹ mailed December 13, 2007, the Examiner rejected claims 1, 3-10, and 12-27 under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,438,435 to Wada et al. ("Wada"); rejected claims 1, 4-10, 13-23, 26, and 27 under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,547,165 to Ishikawa et al. ("Ishikawa"); and rejected claims 1-27 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,293,479 to Quintero et al. ("Quintero").

Applicant amends claims 1-4, 7-14, 16-19, 21, 22, 24, 25, and 27, and cancels claims 5, 6, 15, 23, 26, and 28 without prejudice or disclaimer thereof. Thus, claims 1-4, 7-14, 16-22, 24, 25, and 27 are pending in this application. Of these, claims 1, 10, 19, 21, 22, and 27 are the sole independent claims.

I. Rejections under 35 U.S.C. § 102

A. Rejection of claims 1, 3, 4, 7-10, 12-14, 16-22, 24, 25, and 27 as being anticipated by Wada

Applicant respectfully traverses the rejection of claims 1, 3, 4, 7-10, 12-14, 16-22, 24, 25, and 27 as being anticipated by Wada. In order for Wada to anticipate claims 1, 3, 4, 7-10, 12-14, 16-22, 24, 25, and 27, each and every element of claims 1, 3, 4, 7-10, 12-14, 16-22, 24, 25, and 27 must be found, either expressly described or under principles of inherency, in Wada. Further, "[t]he identical invention must be shown in as complete detail as is contained in the ... claims." See M.P.E.P. § 2131, quoting Richardson v. Suzuki Motor Co., 868 F.2d 1126, 1236, 9 U.S.P.Q.2d 1913, 1920 (Fed.

¹ The Office Action contains a number of statements reflecting characterizations of the related art and the claims. Regardless of whether any such statement is identified herein, Applicant declines to automatically subscribe to any statement or characterization in the Office Action.

Cir. 1989). Wada fails to anticipate claims 1, 3, 4, 7-10, 12-14, 16-22, 24, 25, and 27 because Wada does not disclose or suggest and every element recited in claims 1, 3, 4, 7-10, 12-14, 16-22, 24, 25, and 27, as presently amended.

For example, claim 1, as amended, recites a method comprising, among other features

receiving guidelines for designing the wiring structure, *the guidelines including physical restrictions imposed on the wiring structure by a system into which the wiring structure is to be incorporated*; [and]

automatically modifying the wiring structure design using the received guidelines and the diagram, *the modifying including adjusting the routing pattern of the at least one wiring element according to the imposed physical restrictions*

(emphasis added). Wada fails to disclose or suggest at least these features of amended claim 1.

Wada discloses a computer tool for creating wiring harness diagrams. Wada, abstract. Wada's computer tool judges whether the connections of the wiring harness diagram comply with a predetermined rule, such as manufacturing restrictions limiting the number of connections between to elements. Wada, col. 11, ll. 54-66.

While Wada determines whether a wiring harness design complies with a predetermined rule, Wada fails to disclose or suggest "receiving guidelines for designing the wiring structure, *the guidelines including physical restrictions imposed on the wiring structure by a system into which the wiring structure is to be incorporated*" (emphasis added), as required by amended claim 1. Wada is unconcerned with "physical restrictions imposed" on the wiring harness by "a system into which the wiring structure is to be incorporated."

Wada also fails to disclose or suggest “automatically modifying the wiring structure design using the received guidelines and the diagram, *the modifying including adjusting the routing pattern of the at least one wiring element according to the imposed physical restrictions*” (emphasis added), as recited in claim 1. While Wada teaches that a wiring harness design determined to not be in compliance with the predetermined rule is can be rejected, Wada discloses no such “modifying” of the wiring harness design. Wada, col. 2, ll. 54-57.

Amended independent claims 10, 21, and 22 include recitations similar to those discussed above in connection with claim 1 and, therefore, distinguish from Wada for at least the same reasons that claim 1 distinguishes from Wada. In addition, claims 10, 21, and 22 recite additional features neither disclosed nor suggested by Wada. For example, these claims further require “[generating] a bill of materials for the wiring structure based on the modified wiring structure design,” which Wada also fails to disclose or suggest.

Amended independent claims 19 and 27 include recitations similar to those discussed above in connection with claim 1 and, therefore, distinguish from Wada for at least the same reasons that claim 1 distinguishes from Wada. In addition, claims 19 and 27 recite additional features neither disclosed nor suggested by Wada. For example, claims 19 and 27 further recite “[receiving] a revision of the one or more guidelines for designing the wiring structure [and] automatically [readjusting] the routing pattern of the at least one wiring element based on the revision.” While Wada teaches that wiring harness designs that do not comply with the predetermined rule can be rejected, Wada is silent as to “[receiving] a revision of the one or more guidelines [and]

automatically [readjusting] the routing pattern of the at least one wiring element based on the revision,” as recited in amended independent claims 19 and 27.

For at least these reasons, Wada fails to disclose or suggest each and every element recited by amended independent claims 1, 10, 19, 21, 22, and 27 and, thus, cannot anticipate these claims under 35 U.S.C. § 102(e). Claims 3, 4, 7-9, 12-14, 16-18, 20, 24, and 25 depend from one of independent claims 1, 10, 19, and 21 and, thus, require all of the features recited thereby. Thus, claims 3, 4, 7-9, 12-14, 16-18, 20, 24, and 25 distinguish from Wada for at least the same reasons discussed above in connection with claims 1, 10, 19, and 21, as well as for their own features. Applicant respectfully requests the withdrawal of the rejection of claims 1, 3, 4, 7-10, 12-14, 16-22, 24, 25, and 27 under 35 U.S.C. § 102(e) as being anticipated by Wada.

B. Rejection of claims 1, 4, 7-10, 13, 14, 16-22, and 27 as being anticipated by Ishikawa

Applicant respectfully traverses the rejection of claims 1, 4, 7-10, 13, 14, 16-22, and 27 under 35 U.S.C. § 102(e) as being anticipated by Ishikawa. Ishikawa fails to disclose or suggest each and every element of claims 1, 4, 7-10, 13, 14, 16-22, and 27.

For example, claim 1, as amended, recites a method comprising, among other features

receiving guidelines for designing the wiring structure, the guidelines including physical restrictions imposed on the wiring structure by a system into which the wiring structure is to be incorporated; [and]

automatically modifying the wiring structure design using the received guidelines and the diagram, the modifying including adjusting the routing pattern of the at least one wiring element according to the imposed physical restrictions

(emphasis added). Ishikawa fails to disclose or suggest at least these features of amended claim 1.

Ishikawa discloses an apparatus for designing a vehicle wiring harness. Ishikawa, col. 1, ll. 7-9. A user inputs information about auxiliary units to be connected to the wiring harness; the auxiliary units themselves; wire attributes, such as wire type, wire diameter and color; and a drawing-passing coordinates. Ishikawa, col. 6, ll. 38-54. The user also enters information about points through which the wiring harness passes; wire length information; and coordinates of a starting point and an ending point of a route. Ishikawa, col. 6, l. 55 - col. 7, l. 2. The system subsequently displays on a screen a route drawing including the auxiliary units using the entered information. Ishikawa, col. 7, ll. 15-32.

Subsequently, the user may select a particular route displayed in the drawing, and the system displays information about the wire passing through the selected route in response to the selection. Ishikawa, col. 7, ll. 42-61. For example, in response to the user's selection of the route "P2" shown in Fig. 14, the system will display wiring information about the "P2" route, such as the number of wires passing through "P2" and the diameter of the harness in this area. Ishikawa, col. 11, l. 51 - col. 12, l. 6.

While the system of Ishikawa may display information about a user-selected route in the wiring harness, the system does provide for "receiving guidelines for designing the wiring structure, *the guidelines including physical restrictions imposed on the wiring structure by a system into which the wiring structure is to be incorporated*; [and] automatically modifying the wiring structure design using the received guidelines and the diagram, *the modifying including adjusting the routing pattern of the at least one*

wiring element according to the imposed physical restrictions” (emphasis added), as recited by claim 1. Unlike Wada (and Quintero), Ishikawa does not utilize a rule check or the like to aid the user in designing the wiring harness, but instead accepts the user’s design without regard for rules.

Amended independent claims 10, 21, and 22 include recitations similar to those discussed above in connection with claim 1 and, therefore, distinguish from Ishikawa for at least the same reasons that claim 1 distinguishes from Ishikawa. In addition, claims 10, 21, and 22 recite additional features neither disclosed nor suggested by Ishikawa. For example, these claims further require generating “a bill of materials for the wiring structure based on the modified wiring structure design,” which Ishikawa also fails to disclose or suggest.

Amended independent claims 19 and 27 include recitations similar to those discussed above in connection with claim 1 and, therefore, distinguish from Ishikawa for at least the same reasons that claim 1 distinguishes from Ishikawa. In addition, claims 19 and 27 recite additional features neither disclosed nor suggested by Ishikawa. For example, claims 19 and 27 further recite “[receiving] a revision of the one or more guidelines for designing the wiring structure, and automatically [readjusting] the routing pattern of the at least one wiring element based on the revision,” which Ishikawa also fails to disclose or suggest.

For at least these reasons, Ishikawa fails to disclose or suggest each and every element recited by amended independent claims 1, 10, 19, 21, 22, and 27 and, thus, cannot anticipate these claims under 35 U.S.C. § 102(e). Claims 4, 7-9, 13, 14, 16-18, and 20 depend from one of independent claims 1, 10, and 19, and require all of the

features recited thereby. Thus, claims 4, 7-9, 13, 14, 16-18, and 20 distinguish from Ishikawa for at least the reasons discussed above in connection with claims 1, 10, and 19, as well as for their own features. Applicant respectfully requests the withdrawal of the rejection of claims 1, 4, 7-10, 13, 14, 16-22, and 27 under 35 U.S.C. § 102(e).

II. Rejection of claims 1-4, 7-14, 16-22, 24, 25, and 27 under 35 U.S.C. § 103(a) as being unpatentable over Quintero

Applicant respectfully traverses the rejection of claims 1-4, 7-14, 16-22, 24, 25, and 27 under 35 U.S.C. § 103(a) as being unpatentable over Quintero. Quintero does not render obvious claims 1-4, 7-14, 16-22, 24, 25, and 27, as amended.

"The key to supporting any rejection under 35 U.S.C. 103 is the clear articulation of the reason(s) why the claimed invention would have been obvious . . . [R]ejections on obviousness cannot be sustained with mere conclusory statements." M.P.E.P. § 2142, 8th Ed., Rev. 6 (Sept. 2007) (internal citation and inner quotation omitted). "The mere fact that references can be combined or modified does not render the resultant combination obvious unless the results would have been predictable to one of ordinary skill in the art." M.P.E.P. §2143.01(III) (emphasis in original). "All words in a claim must be considered in judging the patentability of that claim against the prior art." M.P.E.P. § 2143.03. "In determining the differences between the prior art and the claims, the question under 35 U.S.C. 103 is not whether the differences themselves would have been obvious, but whether the claimed invention as a whole would have been obvious." M.P.E.P. § 2141.02(I), (emphasis in original).

"[T]he framework for objective analysis for determining obviousness under 35 U.S.C. 103 is stated in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966)

. . . The factual inquiries . . . [include determining the scope and content of the prior art and] . . . [a]scertaining the differences between the claimed invention and the prior art.” M.P.E.P. § 2141(II). “Office personnel must explain why the difference(s) between the prior art and the claimed invention would have been obvious to one of ordinary skill in the art.” M.P.E.P. § 2141(III).

Claim 1, as amended, recites a method comprising, among other features

receiving guidelines for designing the wiring structure, the guidelines including physical restrictions imposed on the wiring structure by a system into which the wiring structure is to be incorporated; [and]

automatically modifying the wiring structure design using the received guidelines and the diagram, the modifying including adjusting the routing pattern of the at least one wiring element according to the imposed physical restrictions

(emphasis added). Quintero does not render claim 1 obvious at least because the scope and content of Quintero does not include the claimed “receiving” and “automatically modifying” features of claim 1.

Quintero discloses a tool for designing assemblies of modular furniture, wire harness assemblies, propellers, bolts, and other fasteners, but only explains use of the tool with respect to creating modular furniture. Quintero, col. 1, ll. 14-17. The tool includes a knowledge base, a rule base, an inference engine, an expert user interface, and a graphic system that interrelate to allow a user to create a design for a particular system. Quintero, col. 7, ll. 3-10.

The knowledge base contains information about components used in the design, such as connection vectors (i.e., connection points on the components), graphical information (e.g., drawings), assembly instructions, and availability. Quintero, col. 7, ll.

17-30. The rule base contains information to determine proper and improper combinations of components during the design process. Quintero, col. 7, ll. 48-64. The inference engine accepts user choices through menu selection (via the expert user interface) and applies rules from the rule base using information from the knowledge base to guide the user during the design process. Quintero, col. 8, ll. 37-39 and 43-46. The inference engine also applies a design rule check (DRC) to detect errors in the design when a design is saved. Quintero, col. 8, ll. 47-50.

Although the Quintero's design tool provides guidance to a user designing modular furniture or another system by incrementally applying rules to the design, the tool does not provide for "receiving guidelines for designing the wiring structure, *the guidelines including physical restrictions imposed on the wiring structure by a system into which the wiring structure is to be incorporated*; [and] automatically modifying the wiring structure design using the received guidelines and the diagram, *the modifying including adjusting the routing pattern of the at least one wiring element according to the imposed physical restrictions*" (emphasis added), as recited by claim 1.

Amended independent claims 10, 21, and 22 include recitations similar to those discussed above in connection with claim 1 and, therefore, distinguish from Quintero for at least the same reasons that claim 1 distinguishes from Quintero. In addition, claims 10, 21, and 22 recite additional features neither disclosed nor suggested by Quintero. For example, these claims further require generating "a bill of materials for the wiring structure based on the modified wiring structure design," which Quintero also fails to disclose or suggest.

Amended independent claims 19 and 27 include recitations similar to those discussed above in connection with claim 1 and, therefore, distinguish from Quintero for at least the same reasons that claim 1 distinguishes from Quintero. In addition, claims 19 and 27 recite additional features neither disclosed nor suggested by Quintero. For example, claims 19 and 27 further recite “[receiving] a revision of the one or more guidelines for designing the wiring structure, and automatically [readjusting] the routing pattern of the at least one wiring element based on the revision,” which Quintero also fails to disclose or suggest.

For at least these reasons, the scope and content of Quintero do not include all of the features recited by independent claims 1, 10, 19, 21, 22, and 27. Thus, Quintero cannot render these claims obvious. Claims 2-4, 7-9, 11-14, 16-18, 20, 24, and 25 depend from one of independent claims 1, 10, 19, and 21 and, thus, require all of the features recited thereby. Thus, Quintero cannot render claims 2-4, 7-9, 11-14, 16-18, 20, 24, and 25 obvious for at least the same reasons that Quintero fails to render independent claims 1, 10, 19, and 21 obvious. Applicant respectfully requests the withdrawal of the rejection of claims 1-4, 7-14, 16-22, 24, 25, and 27 under 35 U.S.C. § 103(a).

III. Conclusion

In view of the foregoing, Applicant respectfully requests reconsideration of this application and the timely allowance of the pending claims.

Please grant any extensions of time required to enter this response and charge any additional required fees to our Deposit Account 06-0916.

Respectfully submitted,

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